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INFORMATION RETRIEVAL SERVICES OF EPA'S OFFICE OF SOLID WASTE MANAGEMENT PROGRAMS

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The Information Retrieval Services Branch of the Office of Solid Waste Management Programs (OSWMP) performs one of the three functions of the Technical Information Staff. The primary mission of this branch is to fulfill the objectives of the Solid Waste Disposal Act of 1965 related to collecting and disseminating the results of technological developments published throughout the world in the field of solid waste management. The Branch is composed of two sections: the Solid Waste Information Retrieval System (SWIRS) Section, with data bank holdings of approximately 18,000 items (as of September 1972), and the Library Section. The SWIRS Section supports the legislative and EPA objective of making solid waste management information widely available; its holdings are supplemented by those of the Library Section. The users, data base, facilities, and services of these two sections are described in this report.

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of EPA's Office of Solid Waste Management Programs

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by JOHN A. CONNOLLY

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1. List of SWIRS Subject Categories

INFORMATION RETRIEVAL SERVICES
OF EPA'S OFFICE OF SOLID WASTE MANAGEMENT PROGRAMS

The Information Retrieval Services Branch of the Office of Solid Waste Management Programs (OSWMP) performs one of the three functions of the Technical Information Staff. The primary mission of this branch is to fulfill the objectives of the Solid Waste Disposal Act of 1965 related to collecting and disseminating the results of technological developments published throughout the world in the field of solid waste management. In accomplishing this mission, the Branch coordinates its activities with other Federal information storage and retrieval systems, State and local systems, and the World Health Organization.

The Branch is composed of two sections: the Solid Waste Information Retrieval System (SWIRS) Section, with data bank holdings of approximately 18,000 items (as of September 1972), and the Library Section. The SWIRS Section supports the legislative and EPA objective of making solid waste management information widely available; its holdings are supplemented by those of the Library Section. The users, data base, facilities, and services of these two sections are described in the following paragraphs.

SWIRS SECTION

SWIRS consists of a comprehensive collection of published international literature relevant to solid waste management. Materials selected for the data bank are retrievable by automated means; the types and quantity of stored documents are detailed below. Although the collection

is primarily technically-oriented, a useful body of semitechnical and nontechnical information is also available. Users of the system include Federal, State, and local agencies in the United States and abroad as well as members of the general research and development community, consulting engineers, attorneys, students, and others of the lay public.

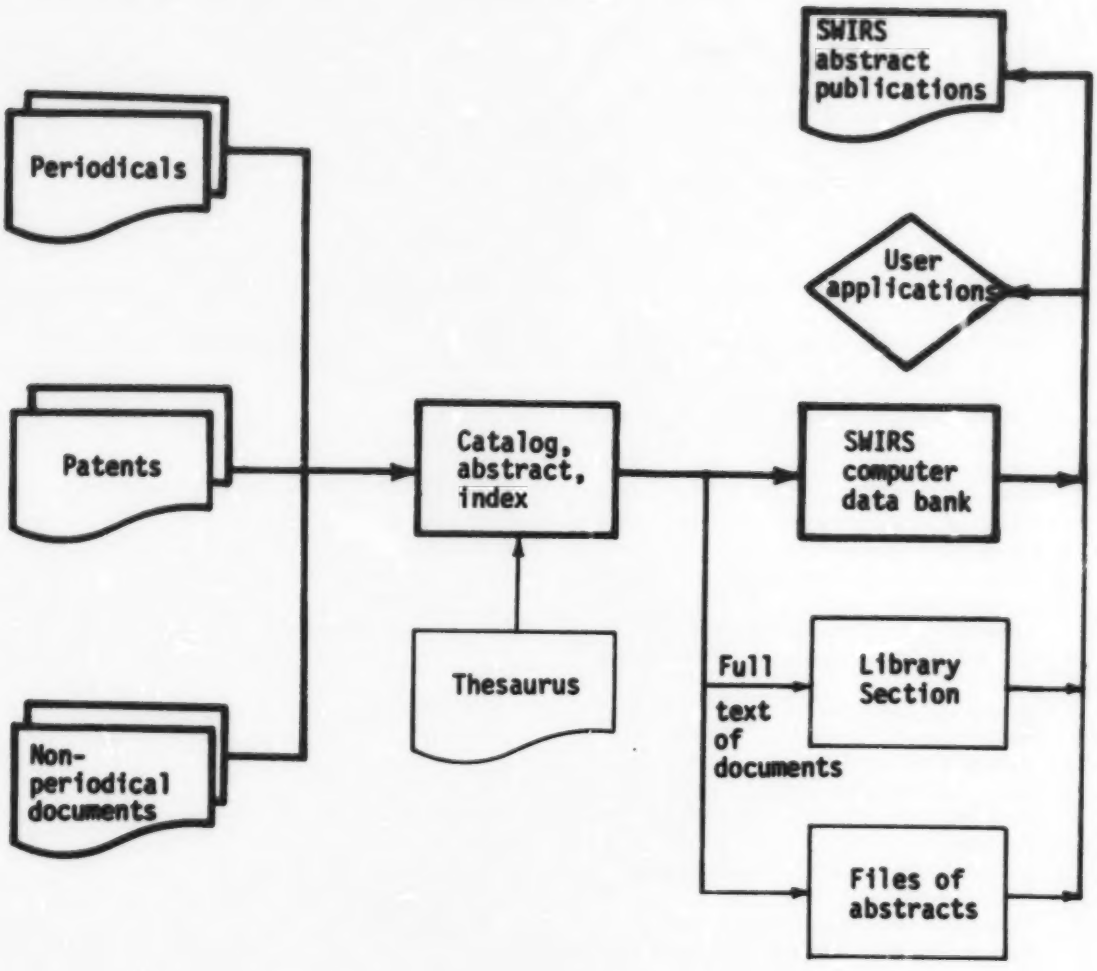
DATA BASE

Documents to be entered in SWIRS are drawn from a wide variety of published sources (Figure 1). In addition to a core list of approximately 700 titles, primary and secondary periodical literature is obtained from a screening of more than 7000 titles available to the system's contractor. Other sources for the data bank include patent literature from the United States and eight foreign countries, and such nonperiodical documents as conference papers, books, technical reports, monographs, and laws. Materials are also collected in Japan, Europe, and the United States by regular personal contact with key persons in government, industry, and universities who are working in the field of solid waste management.

Although this coverage is extensive, we recognize that no amount of effort will identify all pertinent documents. SWIRS therefore welcomes suggestions from any source for additional documents that should be made available to system users.

FIGURE 1

SWIRS Data-Base Input/Output



All aspects of solid waste management reported in the technical literature are considered for inclusion into the data bank (Table 1). After selection and during input preparation, specific keywords describing the documents in detail are assigned; these keywords are drawn from SWIRS's thesaurus of terms.

TABLE 1

Major Subject Categories of SWIRS Documents

Agricultural wastes (includes crop residues and animal manures)
Analysis of solid waste
Automobile (abandoned autos, processing, separating, salvaging, reduction, collection of autos. Recycling of automobile parts will be found under Automobile, not under Recycling)
Bulky wastes (includes building-demolition and highway-construction debris)
Collection (includes transfer stations). *See also* Transport
Compost/Composting (includes equipment, processes, and marketing)
Disposal (multisystems only). *See also* Specific methods
Economics (includes costs, fees, taxes, and financing)
Hazardous wastes (includes pesticides)
Health/Safety
Incineration (includes all burning processes and pyrolysis)
Industrial wastes (excludes sewage sludge and slurry)
Institutional wastes (includes hospitals, schools, universities, research facilities)
Law/Regulations (includes ordinances and bills)
Litter
Management (includes the facility as well as overall concept of the system)
Ocean disposal (includes all waterways)
Packaging wastes (includes plastic, glass, and metals)
Processing/Reduction (excludes composting and incineration)
Recycling (includes reclamation, utilization, salvage, recovery and reuse). *See also* Automobile
Research
Sanitary landfill (includes all land disposal)
Separation
Sludge (includes sewage sludge and slurry)
Storage (includes receptacles, containers, and sacks)
Street cleaning (includes snow removal and sweeping equipment)
Training, Education, and Public Relations
Transport (includes pipelines, pneumatic systems, rail, truck or barge haul). *See also* Collection

As of mid-September 1972, the system contained information for approximately 18,000 documents, dating primarily from 1964 to the present. The computer data bank contains the following searchable elements:

Document accession number

Up to three personal authors or a corporate author

Year of publication

Indication of whether document is foreign or domestic

Indication of whether document is scientific (chemical formulations, analyses); technical (engineering design, specifications); or general

Up to 15 keywords from a controlled vocabulary of approximately 800 terms.

For each document in the computer data bank having the preceding elements, a sheet is prepared which contains the full citation, including English titles of foreign-language documents, and an informative abstract of up to 300 words (Figure 2). Paper and microfilm files of these sheets are maintained to facilitate retrieval. The full texts of all documents accessioned are stored in the Library Section.

Assuring users of current information, the lag time from receipt of a document for screening to entry into the SWIRS data bank and Library Section is 3 to 4 weeks.

Processed documents also are used to provide copy for a monthly abstract publication, using computer-driven photocomposition techniques that operate directly on input data recorded on magnetic tapes. Monthly

FIGURE 2

Sample SWIRS Abstract Sheet

C. NUMBER

SOLID WASTE INFORMATION RETRIEVAL SYSTEM

15930
ACCESSION

AUTHOR: Ready, T. J.

TITLE: Detailed plan for total recycling plant

PERIODICAL TITLE: Secondary Raw Materials

VOLUME: 9 **NUMBER:** 2 **PAGES:** 120-122, 124-125,127-128,131-133,135 **DATE:** Feb. 1971

LANGUAGE:

The Aluminum Association has developed a detailed plan for a recycling plant that consists of technically feasible devices and processes which will be evaluated singly and in combination. The plant inputs wastes at one end and outputs saleable material at the other. Special emphasis has been placed on economic factors - capital investments, operating costs, revenues from recycled goods, and potential sale of by-product energy. The design also accounts for odor control, waste water quality, and air emissions. The only limiting factor in the economic success of the plant is the value of the materials in the garbage. The proposed demonstration plant can handle 2,500 tons of municipal refuse per week, or the amount generated by a population of 175,000 to 225,000. It consists of a receiving and shredding area with its own operators' control station, two 200-ton-per-day incinerators which can produce steam, two electromagnetic separators, and a conveyer belt. (D) (T)

KEYWORDS: reclamation; metal; aluminum; pilot plant; economics; shredding; incinerator; separator; conveyor;

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(REV. 2-71)

and yearly author and subject indices will facilitate use of the abstract bulletin. The primary use of SWIRS input, however, is the computer data bank, which is used to respond to specific user demands (Figure 1).

Selected abstracts and patents are grouped by subject and have been published through 1968; 1969 through 1971 are in press. This series of annotated bibliographies covers the periodical and report literature from 1957 through 1971; unannotated bibliographies cover the period from 1940 to 1957. Selected solid waste management devices and systems patented in the United States and abroad are summarized and illustrated in patent abstract bulletins covering the period from 1875 through 1971. One volume pertains to patents issued from 1875 to 1966 which relate to equipment and processes used in buildings; another two-volume set (U.S. and international) covers all aspects of solid waste management for the period 1945 through 1969; a third volume covers all aspects for 1970 and 1971.

USER SERVICES

In addition to the abstract bulletin and annotated bibliographies, SWIRS offers users a variety of services, including responding to general inquiries, conducting specific literature searches, providing technical translations, and conducting SWIRS user seminars. No fee is charged at present for any of these services.

GENERAL INQUIRIES

Written, telephoned, or in-person inquiries are honored for general information that can be provided without a machine search, such as a

request by a student for "publications that give me a general picture of the solid waste problem in the United States." Referral services are also provided to direct an inquirer to persons working in OSWMP, other agencies of the Government, or others who are knowledgeable in the subject of the request. General information may be requested by calling area code 202 254-7506 or by visiting SWIRS at 1835 K Street, N.W., Washington, D. C.

LITERATURE SEARCHES

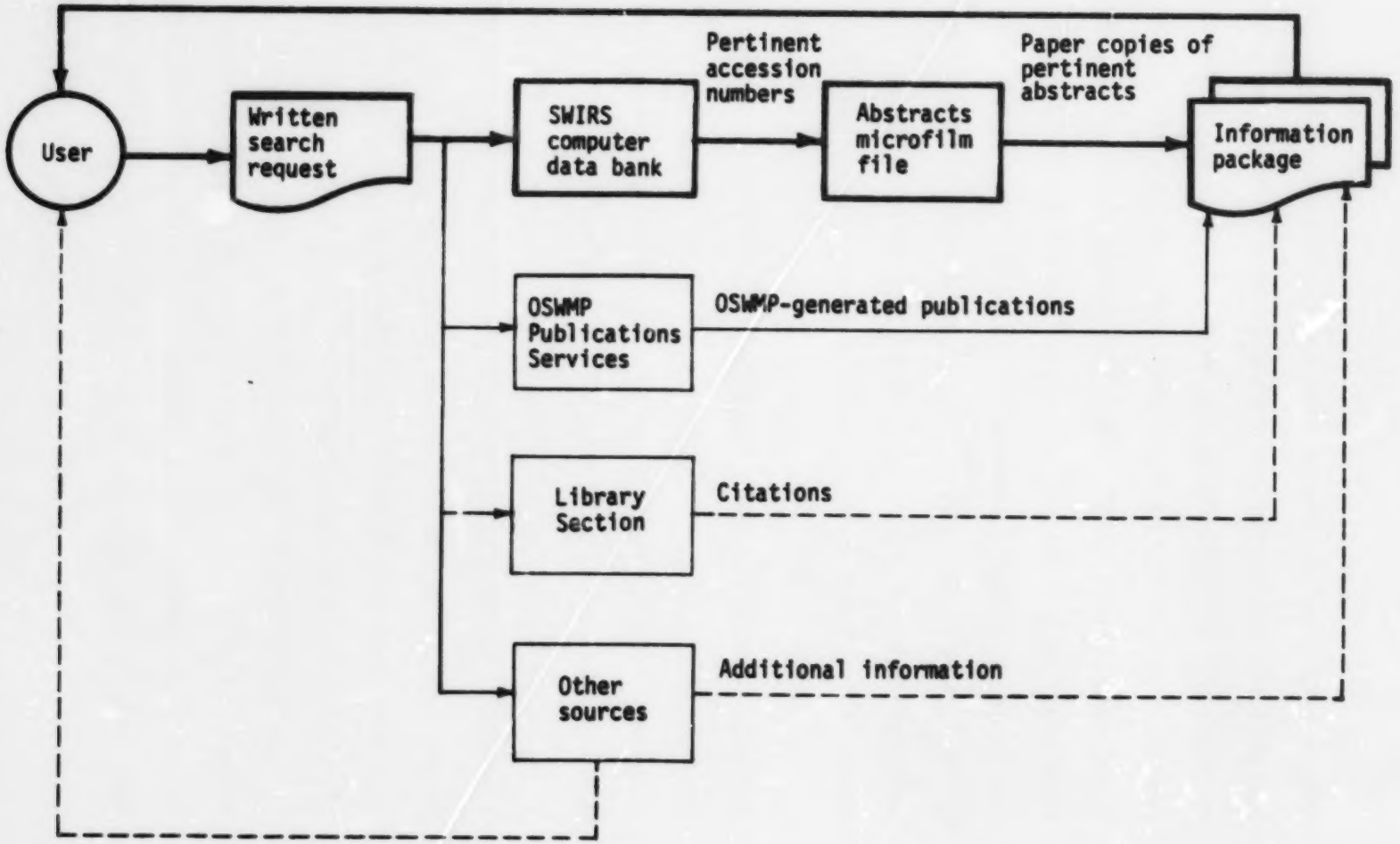
Comprehensive literature searches may be obtained by written request to Solid Waste Information Retrieval System (SWIRS), Post Office Box 2365, Rockville, Maryland 20852. Three sources of information within the OSWMP Technical Information Staff, and other government or private sources, are tapped in response to such requests (Figure 3).

The primary source is the SWIRS computerized data bank, containing information about approximately 18,000 scientific and technical documents. Capability exists for selective retrieval by a variety of keywords and other data elements, permitting entry of a question such as: "What technology exists in Eastern Europe related to utilization of heat from incinerators since 1969?" Machine searches also may be conducted to provide complete bibliographic citation information to an incomplete reference, or to verify the accuracy of a citation.

Requests are entered and monitored from a communications terminal, resulting in a printout at the terminal of pertinent document accession

FIGURE 3

SWIRS Search Procedure



numbers and/or full abstracts. The microfilmed abstracts of these documents are then carefully screened by an information analyst for relevance to the search topic, and paper copies of all relevant abstracts, with full bibliographic citations, are made for inclusion in the information package sent to the requestor. (Copyright restrictions preclude provision of full text of pertinent articles.)

A search of the Library Section is made and citations of pertinent holdings, as well as related Program publications, are provided to the SWIRS Section. (As described later in this paper, users may then request interlibrary loan of Library Section nonperiodical documents.)

Requests are also made to other sources of information, such as knowledgeable OSWMP personnel, the Science Information Exchange of the Smithsonian Institution, the Library of Congress, the Federal Government interlibrary loan system, State and local solid waste management agencies, and OSWMP contractor and grant facilities. When possible, pertinent additional information from these sources is included in the information package sent to SWIRS users; supplementary information may be sent directly to the user by the source.

Currently, search requests are normally answered within one week of receipt of the written request.

To ensure that the SWIRS data base is responsive to users' needs, feedback is sought through user evaluation of the effectiveness of searches received, including suggestions for adding documents he may have known of that were not included in the search information package.

Feedback is also obtained through periodic structured interviews with key users. Based on such feedback, the criteria used to select documents for input to SWIRS are updated, and terms are added to or deleted from the thesaurus to reflect changing technology and shifting priorities.

TRANSLATIONS

Full translations of scientific and technical documents in the SWIRS data bank can be requested by OSWMP personnel or by OSWMP contractors through the cognizant OSWMP Division, Branch, or Section Chief.

Under a soft-currency contract (Public Law 480), translations of scientific and technical papers, monographs, and reports are provided where response time is not critical. Fast-turnaround translation requirements are met under contract with a domestic organization.

INSTRUCTIONS IN SWIRS USE

Instructions are provided to SWIRS users through seminars and by means of a Users' Guide/Thesaurus, available from 1835 K Street, N.W., Washington, D.C. 20460. Although the seminars are primarily designed for OSWMP personnel, other government and nongovernment users may request an appointment for demonstration and instruction. The seminars provide users with a detailed knowledge of how they can best take advantage of the SWIRS data bank and related facilities.

LIBRARY SECTION

The library, located at 1835 K Street N.W., Washington, D.C., contains approximately 2,500 books, monographs, conference proceedings,

and reports related to all aspects of solid waste management.

The library is open to all users; hours are from 8 a.m. to 4:30 p.m. In addition to the preceding nonperiodical documents, the reading area contains selected general reference publications, such as foreign-language dictionaries, association directories, directories of research institutes, and a wide selection of solid-waste-related periodicals.

Nonperiodical documents may be borrowed directly from the library by OSWMP personnel. The loan of reports and other documents relating to OSWMP demonstration, research, State planning and training grants, and contracts may be requested through another recognized library.

At present, the library does not lend periodicals and provides no photoduplication services.

FUTURE PLANS

In the near future, the full citation and abstract of each document in the SWIRS collection will be added to the computer data bank, providing direct high-speed printout of pertinent abstracts in response to machine searches. With this addition, full-text searches can be conducted, rather than limiting the vocabulary to approved thesaurus terms. Machine-generated bibliographies also will be available with this addition.

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